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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,636	05/20/2005	Jean-Sebastien Straetmans	DE 020285	7716
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EXAMINER HOLLWEG, THOMAS A				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/535,636

Applicant(s)

STRAETMANS ET AL.

Examiner

Thomas A. Hollweg

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 May 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Response to Amendment

1. Applicant's amendment, received December 26, 2007, is acknowledged. Revisions to the specification and amendments to the claims are acknowledged and have been entered. Claims 11-23 have been added. Claims 1-23 are now pending.

Response to Arguments

2. The reference, GB 1,361,225 ('225), discusses the coating (12) at page 3, line 54, calling it a tungsten metal coating. This feature is discussed in depth at page 2, lines 1-25. This feature is critical to the invention disclosed by '225, and is further discussed throughout the entire specification and claims.

Claim Objections

3. The following claims are objected to because of the following informalities:
 - a. Claim 11, line 8, "the feed through member," lacks antecedent basis.
 - b. Claim 14, missing the initial "The" in the beginning of the claim.Appropriate correction is required.

Drawings

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the varying feed-through opening cross section of claims 8 and 17 must be shown or the feature(s) canceled from the claim(s). Also, the headlight of claims 11-19 must be shown or the feature(s) canceled from the claim(s). Further, the functionally graded cermet material of

claim 18 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

5. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-4, 6-8, 10, 21, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by GE Co., Ltd., GB 1,361,225.
8. With regard to claim 1, in the figure, GE discloses a discharge vessel (1) with an end part (not labeled) and a discharge cavity, characterized in that at least one coating layer (12) (page 3, line 54) is located and gas-tight connected between an end part of said discharge vessel (1) and a sealant (14) and/or between a sealant (14) and an end closure member (2) (page 2, lines 1-25 & page. 3, lines 15-108).
9. With regard to claim 2, in the figure, GE discloses that the gastight bonding of the coating layer (12) to the discharge vessel (1), to a sealant (14), and/or to an end closure member (2) is stronger compared to the direct gas-tight bonding of said sealant (14) to said end closure member (2) and/or discharge vessel (1) (page 1, line 78 – page 2, line 25).
10. With regard to claim 3, in the figure, GE discloses that the coating layer (12) has an expansion coefficient in the range between $4 \cdot 10^{-6} \text{ K}^{-1}$ and $12 \cdot 10^{-6} \text{ K}^{-1}$ (tungsten) (page 3, line 54).
11. With regard to claim 4, in the figure, GE discloses that the coating layer (12) is chemically resistant towards oxides and iodides (tungsten (page 3, line 54).
12. With regard to claim 6, in the figure, GE discloses that the coating layer (12) covers at least the end parts of the discharge vessel (1) of the end closure device (2) (page. 3, lines 15-108).
13. With regard to claim 7, in the figure, GE discloses a gas-tight high—pressure burner with a coating layer (12, 13) (page 3, line 54) comprising at least one discharge

vessel (1) according to claim 1 and at least one end closure device (2) and at least one feed-through (not labeled) (page. 3, lines 15-108).

14. With regard to claim 8, in the figure, GE discloses that the gas-tight high-pressure burner according to claim 7, comprises at least one end closure member (2) with at least one feed through (not labeled), wherein the end closure member (2) has at least one through-going feed-through opening (not labeled), whereby the feed-through opening cross section varies along the end closure member (2) longitudinal axis (page. 3, lines 15-108).

15. With regard to claim 10, in the figure, GE discloses a method of manufacturing a gas-tight high pressure burner comprising at least one end closure member (2), at least two feed through members (not labeled), at least one connection means (10), at least one sealant (14) and at least one discharge vessel (1) with a coating layer (12), wherein the manufacturing method comprises the steps: filling said discharge vessel (1) with an ionizable filling through at least one of the feed-through opening, and closing said feed-through opening by arranging a feed-through in said opening followed by gas-tight connecting said feed-through to the end closure device (2) and/or to discharge vessel with connection means, whereby a gas-tight high-pressure burner is obtained (page 2, line 1 – page 2, line 114).

16. With regard to claim 21, in the figure, GE discloses a method of assembling a lamp comprising: first sealing at least one cap (3) to a discharge vessel (1), the cap (3) comprising an opening (11), the sealing process comprising increasing temperature and/or pressure within the vessel and using a sealant (15) and a coating (13) (page 3,

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lines 75-93); after sealing, filling the vessel (1) with at least one desired salt and/or at least one desired filling gas, through the opening (11); positioning at least one electrode (9) in opening after the vessel is filled; and second sealing the electrode in the opening using a technique resulting in substantially less temperature and pressure increase within the vessel than was required by the first sealing, so that the sealing (15) and coating (13 from the first sealing are not damaged by temperature and pressure of the contents of the vessel (1) (page 3, lines 109-114).

17. With regard to claim 23, in the figure, GE discloses that the coating layer (12, 13) is of a material comprising at least W (page 3, line 54).

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claims 5 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over GE as applied to claim 1 above, in view of Geven et al., U.S. Patent No. 5,424,609.

20. With regard to claim 5, all of the limitations are disclosed by GE, as discussed in the rejection of claim 1, except, GE does not expressly disclose that that the coating layer is of a material comprising at least Mo.

21. Geven, in figure 4, discloses a high-pressure discharge lamp with a coating layer (356a) comprising Mo or tungsten, to protect the components from the halide fill of the discharge space (col. 3, line 65 - col. 4, line 4 & col. 11, lines 7-9). Further, one having

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ordinary skill in the art would understand that Mo and tungsten have similar coefficients of expansion.

22. Therefore, at the time of invention, it would have been obvious for a person having ordinary skill in the art to construct the GE discharge vessel substituting Mo for tungsten as the coating layer, because Mo and tungsten are both halide resistant and have similar coefficients of expansion, so they would both be suitable for the adhesion improvement layer of GE.

23. With regard to claim 22, all of the limitations are disclosed by GE, as discussed in the rejection of claim 1, except, GE does not expressly disclose that the coating layer is of a material comprising at least Pt.

24. Geven, in figure 4, discloses a high-pressure discharge lamp with a coating layer (356a) comprising Pt or tungsten, to protect the components from the halide fill of the discharge space (col. 3, line 65 - col. 4, line 4 & col. 11, lines 7-9). Further, one having ordinary skill in the art would understand that Pt and tungsten have similar coefficients of expansion.

25. Therefore, at the time of invention, it would have been obvious for a person having ordinary skill in the art to construct the GE discharge vessel substituting Pt for tungsten as the coating layer, because Pt and tungsten are both halide resistant and have similar coefficients of expansion, so they would both be suitable for the adhesion improvement layer of GE.

26. Claims 9 and 11-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over GE as applied to claims 1 and 7 above, in view of Hendricx et al., WO 00/67294.

27. With regard to claim 9, all of the limitations are disclosed by GE, as discussed in the rejection of claim 7, except GE does not expressly disclose that the lamp is arranged in an automotive headlamp unit. Hendricx, in figure 1, teaches a lamp comprising a gas-tight high-pressure burner (3) that is arranged in an automotive headlamp unit (page 2, lines 8-27).

28. At the time of invention, it would have been obvious for a person having ordinary skill in the art to construct the lamp disclosed by GE in an automotive headlamp unit, as taught by Hendricx, because it has the characteristics making it particularly good for use in a complex shape headlamp.

29. With regard to claim 11, in the figure, GE discloses a lamp, the lamp comprising a gas-tight high-pressure burner (1), the burner comprising at least one metal halide discharge vessel comprising at least one end part; and a discharge cavity; at least one end closure member (2, 3); at least one sealant (14, 15) between the end closure member (2, 3) and the end part; at least one gas-tight connection between the feed-though member (11) and the end closure member (2, 3), at least one gas-tight connected coating (12, 13) covering one or more of the end part of the discharge vessel, the sealant (12, 13), and the end closure device, gas-tight bonding of the coating being stronger than gas-tight bonding of the sealant to the end closure member (2) and/or the discharge vessel (1) (page 1, line 78 – page 2, line 25 & page. 3, lines 15-108).

30. GE does not expressly disclose that the lamp is for use in a motor vehicle.

Hendricx, in figure 1, teaches a lamp comprising a gas-tight high-pressure burner (3) that is arranged in an automotive headlamp unit (page 2, lines 8-27).

31. At the time of invention, it would have been obvious for a person having ordinary skill in the art to construct the lamp disclosed by GE in an automotive headlamp unit, as taught by Hendricx, because it has the characteristics making it particularly good for use in a complex shape headlamp.

32. With regard to claim 12, all of the limitations are taught by GE and Hendricx, as discussed in the rejection of claim 11. GE further discloses that the coating layer (12, 13) has an expansion coefficient in the range between $4 \cdot 10^{-6} \text{ K}^{-1}$ and $12 \cdot 10^{-6} \text{ K}^{-1}$ (tungsten) in the range 298 K to 2174 K (page 3, line 54).

33. With regard to claim 13, all of the limitations are taught by GE and Hendricx, as discussed in the rejection of claim 11. GE further discloses that the coating layer (12, 13) is chemically resistant towards oxides and iodides (tungsten) (page 3, line 54).

34. With regard to claim 14, all of the limitations are taught by GE and Hendricx, as discussed in the rejection of claim 11. GE further discloses that the coating layer (12) comprises a material selected from the group comprising at least W, Mo, and/or Pt (tungsten) (page 3, line 54).

35. With regard to claim 15, all of the limitations are taught by GE and Hendricx, as discussed in the rejection of claim 11. GE further discloses that the sealant (14, 15) and the connection comprise materials that are needed for welding, laser welding,

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resistance welding, soldering, brazing, bonding with adhesive materials, primary shaping, sintering, sealing or any combination thereof (page 3, lines 75-114).

36. With regard to claim 16, all of the limitations are taught by GE and Hendricx, as discussed in the rejection of claim 11. GE further discloses that the lamp further comprises at least one opening through the end closure and the end part (3); and at least one feed through member (11) passing through the opening, the feed through being suitable for introducing first a filling into the discharge vessel after the end closure is sealed to the discharge vessel, and second and electrode (9) after the discharge vessel is filled (page 3, lines 75-114).

37. With regard to claim 17, all of the limitations are taught by GE and Hendricx, as discussed in the rejection of claim 16. GE further discloses that the opening has an outer cross section and an inner cross section, and the outer cross section is greater than or equal to the inner cross section. (page. 3, lines 15-108).

38. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over GE and Hendricx, as applied to claim 11 above, and further in view of Juengst, U.S. Patent No. 6,194,832 B1.

39. With regard to claim 18, all of the limitations are taught by GE and Hendricx, as discussed in the rejection of claim 11, except neither GE, nor Hendricx discloses that the end closure is made of a functionally graded cermet material including first and second materials denominated A and B arranged such that -- in some portions -- concentration of compound A substantially increases where component B decreases

causing gradients of both A and B, while and outer layer has a constant concentration of A and B.

40. Juengst, in figure 2, teaches a high-pressure lamp where the end closure (11) is made of a functionally graded cermet material including first and second materials denominated A and B arranged such that -- in some portions -- concentration of compound A substantially increases where component B decreases causing gradients of both A and B, while and outer layer has a constant concentration of A and B (col. 5, line 41 – col. 6, line 41).

41. At the time of invention, it would have been obvious for a person having ordinary skill in the art to construct the headlight of claim 11, where the end closure is made of a functionally graded cermet material including first and second materials denominated A and B arranged such that -- in some portions -- concentration of compound A substantially increases where component B decreases causing gradients of both A and B, while and outer layer has a constant concentration of A and B, as taught by Juengst. This type of non-glass melt seal increases the lifetime of the lamp by maintaining a vacuum capable of withstanding high temperatures and not subject to corrosive attack by the fill within the discharge vessel, as taught by Juengst (col. 2, lines 55-61).

42. With regard to claim 19, in figure 2, Juengst discloses that compound A comprises Al_2O_3 and compound B comprises Mo (col. 2, line 62 - col. 3, line 1).

43. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over GE as applied to claim 1 above, in view of itself.

44. All of the limitations of claim 20 are disclosed by GE, as discussed in the rejection of claim 1, however, GE does not expressly disclose that the coating is between the sealant and the end of the discharge vessel.

45. GE teaches that the coating layer is effective to improve the hermetic bond between the ceramic alumina and a refractory metal (page 1, lines 78-90). One having ordinary skill in the art would understand that it would be advantageous to apply the layer between portions of ceramic alumina and refractory metals. When the sealant contains a refractory metal, it would be obvious to put a coating layer between the ceramic alumina discharge vessel and the sealant.

46. Therefore, At the time of invention, it would have been obvious for a person having ordinary skill in the art to construct the GE discharge vessel where the coating is between the sealant and the end of the discharge vessel, in order to improve the hermetic bond between the ceramic alumina discharge vessel and any refractory metals, as taught by GE.

Conclusion

47. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

48. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

49. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Hollweg whose telephone number is (571) 270-1739. The examiner can normally be reached on Monday through Friday 7:30am-5:00pm E.S.T..

50. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

51. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TH/

/Nimeshkumar Patel/
Supervisory Patent Examiner, Art Unit 2879